

Appl. No. : 10/812,290
Filed : March 29, 2004

COMMENTS

Claims 33-38 and 42-48 remain pending in the present application, Claims 33 and 42 having been amended. The claims set forth above include marking to show the changes made by way of the present amendment, deletions being in ~~strikeout~~ and additions being underlined.

In response to the Office Action mailed June 30, 2005, Applicants respectfully request the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments.

The Proposed Combination of Rheault et al./Wussow et al. Does Not Make Obvious Claims 33, 34, 42, and 43

Claims 33, 34, 42, and 43 stand rejected under 35 U.S.C. § 103(a) as being obvious over Rheault et al. in view of Wussow et al. Applicants respectfully traverse the present rejection. However, in order to expedite prosecution of the present application, Applicants have amended Claims 33 and 42. Applicants expressly reserve the right to further prosecute the original versions of Claims 33-38 and 42-48 through continuation practice.

Rheault et al. discloses a steering system for watercraft in which a steering sensor, an electronic control system, a watercraft speed sensor, and a throttle position sensor, are used together to increase the speed of the engine when the steering control device is turned beyond a predetermined degree. However, Rheault et al. fails to disclose an electronically-controlled throttle valve actuator disposed apart from the engine and connected to the throttle valve for the cable for moving the throttle valve.

In contrast, Claim 33 now recites, among other recitations, “an electrically operated control device, and an electric throttle valve actuator arranged to operate the opening degree of the throttle valve, the throttle valve actuator being disposed apart from the engine body and being connected to the throttle valve with a cable, the control device being configured to control the throttle valve actuator based upon an output of the first sensor and an output of the second sensor, the control device causing the throttle valve actuator to operate the at least one throttle valve to increase its opening degree when the output of the first sensor indicates that the sensed opening degree less than a reference opening degree and the output of the second sensor indicates that the sensed angular position is greater than a reference angular position.” Similarly, Claim 42 now recites, among other recitations, “an electric throttle valve actuator disposed apart from the engine

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body, the method comprising sensing an opening degree of the throttle valve by one sensor, sensing an angular position of the steering assembly by another sensor, determining whether the sensed opening degree is less than a reference opening degree, determining whether the sensed angular position is greater than a reference angular position, and increasing the opening degree by moving the throttle valve with a cable connecting the throttle valve actuator and the throttle valve if the results of both determinations are affirmative.”

A non-limiting embodiment of the systems that can be employed and which fall within the scope of Claims 33 and 42 is illustrated in Figures 6 and 7. For example, as shown in Figures 6 and 7, a stepper motor unit 132a is an electronic throttle valve actuator which is controlled by the engine controller (illustrated as ECU 86 in Figure 2). In the embodiment of Figure 7, the throttle valve 54 is mounted on the throttle valve shaft 94.

A first pulley 120 is connected to a cable 118 which is directly connected to a throttle lever mounted on the handlebars of the associated watercraft.

Further, as shown in Figure 6, the stepper motor unit 132a is disposed apart from the body of the engine 32. This provides a number of advantages. For example, often times in the environment of a personal watercraft, the engine is disposed directly beneath an access opening in the hull, through which water can drip onto the engine. See page 6, lines 26-28 of the present application.

Thus, by disposing the stepper motor 132a apart from the engine body, the stepper motor 132a can be better protected from water dripping and splashing around the engine. This provides enhanced durability of the stepper motor 132a, and can reduce its cost because it does not need to be insulated from heat generated from the engine.

Rheault et al. fails to provide any disclosure or suggestion of such an arrangement. Wussow et al. was cited for teaching a compact actuator for a throttle assembly.

Wussow et al. teaches an electric motor mechanism for driving a throttle valve through a cable connection. As noted in the specification of Wussow et al., at column 3, lines 18-22

Housing 28 may further include a plurality of mounting members 48, 50, 52. In the illustrated embodiment, the housing 28 includes three mounting members 48, 50, 52 that allow housing 28 to be mounted to irregular surfaces in a stable manner.

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However, there is no specific disclosure in Wussow et al. for indicating where this compact actuator is mounted within a vehicle. Further, nothing in Wussow et al. suggests that the actuator should be mounted apart from the engine, nor is there any indication of the advantages of mounting such an actuator apart from the engine.

Thus, Applicants submit that Claims 33 and 42 clearly and non-obviously define over the Rheault and Wussow et al. references. Further, Applicants submit that Claims 34-38 and 43-48 also define over the Rheault et al. and Wussow et al. references, not only because they depend from Claims 33 or 42, but also on their own merit.

The Various Proposed Combinations of Rheault et al./Wussow et al./Mukumoto/Bernier et al./Kolberg Does Not Make Obvious Claims 35-38 or 44-48

Claims 35-38 and 44-48 stand rejected under 35 U.S.C. § 103 as being obvious over various combinations of Rheault et al., Wussow et al., Mukumoto, Bernier et al., and Kolberg. Applicants respectfully traverse the present rejection.

However, as noted above, Applicants submit that Claims 33 and 42 clearly and non-obviously define over the Rheault et al. and Wussow et al. references. Thus, Applicants submit that Claims 35-38 and 44-48 are also patentable, not only because they depend from one of Claims 33 or 42, but also on their own merit.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any

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undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicants' attorney in order to resolve such issue promptly.

Respectfully submitted,

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